

CLEAN VERSION OF CLAIMS

Claim 40 A stringed musical instrument comprising:

an elongated neck,

a body attached to one end of said neck,

a tremolo pivotably mounted on said body,

a plurality of strings with a first end and a second end,

on said neck, a first critical point on at least one of said strings,

said tremolo further comprising:

bridge elements forming a support and a second critical point for at least one of said strings,

a string anchor engaging said second end of said at least one of said strings,

a base plate,

a spring, and

counter springs with a first end and a second end, said first end of said

counter springs connected to said body and said second end of said

counter springs secured to said spring for counter balancing the

tension of said at least one of said strings,

wherein said base plate and said spring comprise:

a unitary component formed from a single folded or bent plate material with a base plate portion and a spring portion so that said unitary component is connected directly to the springs.

Claim 41 An apparatus of claim 40 wherein said string anchor is located in said portion.

Claim 42 An apparatus of claim 41 wherein said string anchor comprises at least one string passageway within said spring portion.

1           Claim 43   An apparatus of claim 42 wherein said base plate portion comprises at  
2   least one string hole for threading said at least one of said strings and said at least one  
3   string passageway is aligned to said openings in said base portion.

4           Claim 44   An apparatus of claim 40 wherein said base plate portion is formed to  
5   create at least one tier for displacing the height of at least one said bridge elements  
6   relative to said body.

7           Claim 45   An apparatus of claim 40 wherein said tremolo further comprises a  
8   fulcrum tremolo.

9           Claim 46   An apparatus of claim 40 wherein said unitary component has at least  
10   one reinforcement arranged between said base plate portion and said spring portion.

11           Claim 47   An apparatus of claim 46 wherein said unitary component is formed to  
12   create said at least one reinforcement.

13           Claim 48   An apparatus of claim 40 wherein said tremolo further comprises a  
14   macro-tuner.

15           Claim 49   An apparatus of claim 40 wherein said tremolo further comprises a  
16   global-tuner.

17           Claim 50   An apparatus of claim 45 wherein said fulcrum tremolo further  
18   comprises a bearing for adjustably mounting said fulcrum tremolo on said body for  
19   pivotal displacement and said bearing comprises at least a portion of a ball bearing  
20   surface.

21           Claim 51   An apparatus of claim 42 wherein said tremolo further comprises a  
22   global-tuner.

23                           Application:    09/830,279

24                           3 of 24

1 Claim 52 An apparatus of claim 44 wherein said tremolo further comprises a  
2 macro-tuner.

3 Claim 53 An apparatus of claim 44 wherein said tremolo further comprises a  
4 global-tuner.

5 Claim 54 A stringed musical instrument comprising:  
6 a body,  
7 a neck extending outwardly from said body,  
8 a plurality of strings extending from said body to said neck, said strings having a  
9 first end and a second end, said second end of said strings having an anchoring portion  
10 that is thicker than the diameter of said string,  
11 a first critical point for each of said strings on said neck,  
12 a second critical point for each of said strings on a fulcrum tremolo,  
13 said fulcrum tremolo includes a base plate,  
14 said base plate being pivotally mounted about a fulcrum axis extending  
15 transversely of said strings for changing the pitch of all said strings at one time as said  
16 base plate is pivoted,  
17 a string anchor to receive said anchoring portion located on said base,  
18 wherein at least one string anchor on opposite side of at least one said second  
19 critical point from said first critical point is located a critical distance from said second  
20 critical point such that said at least one string is rendered substantially inextensible  
21 between said second critical point and said string anchor.

22 Claim 55 An apparatus of claim 54 wherein said string anchor further comprises  
23 wrappings and the length of said wrappings being slightly less than the distance between  
24 the second critical point and said string anchor.

25 Claim 56 Tuning apparatus for a stringed musical instrument comprising:  
a body,  
a neck extending outwardly from said body,

1 a plurality of strings extending from said body to said neck, said strings having a  
2 first end and a second end, said second end of said strings having an anchoring portion  
3 that is thicker than the diameter of said string,

4 a first critical point for each of said strings on said neck,  
5 a second critical point for each of said strings on a fulcrum tremolo,  
6 said fulcrum tremolo further comprises a base plate, said base plate being  
7 pivotally mounted about a fulcrum axis extending transversely of said strings for  
8 changing the pitch of all said strings at one time as said base plate is pivoted,

9 a mount of each of said strings on said base plate to raise and adjust the tension  
10 of said strings from an untensioned condition to a proper playing pitch, said mount each  
11 of said strings has a bridge element forming said second critical point and

12 a string tension on opposite side of said bridge element from said first critical  
13 point disposed in a variably spaced relation to said second critical point over which each  
14 of said strings extends,

15 wherein said string tensioner has a string holder element,

16 said string holder element has a first portion closer to said second critical  
17 point and a second portion more remote from said second critical point,

18 said string holder element includes a restricted interior portion located  
19 closest said first end,

20 said string holder element displaceable between a first limiting position  
21 closest said second critical point and a second limiting position more remote said  
22 second critical point,

23 said first end of said string holder element in spaced relation from said  
24 second critical point in and between said first and second limiting positions,

25 said restricted portion of string holder element holds said string anchoring  
portion wherein said string anchoring portion is located a critical distance from  
said second critical point such that said at least one string is rendered substantially  
inextensible between said second critical point and said string anchor in said first  
limiting position.

1 Claim 57 An apparatus of claim 56 wherein said anchoring portion comprise  
2 wrappings and the length of said wrappings being slightly less than the distance between  
3 the second critical point and said string anchor.

4 Claim 58 A stringed musical instrument comprising  
5 an elongated neck and body attached to one end of the said neck,  
6 a plurality of strings with a first end and a second end, said second end of said  
7 strings having an anchoring portion that is thicker than the diameter of said string,  
8 a first critical point for each of said strings on said neck,  
9 said fulcrum tremolo including bridge elements forming a support and a second  
10 critical point for at least one of said strings,  
11 a string anchor to engage said second end of said at least one of said strings,  
12 a spring,  
13 counter springs with a first end and a second end, said first end of said counter  
14 springs connected to said body and said second end of said counter springs secured to  
15 said spring to counter balance tension of said at least one of said strings,  
16 said base plate and said spring further comprise a unitary component formed from  
17 a single folded or bent plate material with a base plate portion so that said unitary  
18 component is connected directly to the springs, said string anchor is located in said  
19 portion, said string anchor comprises at least one string passageway within said portion,  
20 said base plate portion comprises string holes for threading said at least one of said  
21 strings and said at least one string passageway is aligned to said openings in said base  
22 portion,  
23 wherein an alternate string anchor on opposite side of at least one said second  
24 critical point from said first critical point is located a critical distance from said second  
25 critical point such that said at least one string is rendered substantially inextensible  
between said second critical point and said string anchor.

23 Claim 59 An apparatus of claim 58 wherein said alternate string anchor  
24 comprises:  
25

1 a separate mount of said strings on said base plate to raise and adjust tension of  
2 said strings from an untensioned condition to a proper playing pitch,

3 said separate includes a string tension on opposite side of said bridge element  
4 from said first critical point disposed in a variably spaced relation to said second critical  
5 point over which each of said strings extends, said string tension has a string holder  
6 element, said string holder element has a first portion closer to said second critical point  
7 and a second portion more remote from said second critical point, said string holder  
8 element includes a restricted interior portion located closest said first end, said string  
9 holder element displaceable between a first limiting position closest said second critical  
10 point and a second limiting position more remote said second critical point, said first end  
11 of said string holder element in spaced relation from said second critical point in and  
12 between said first and second limiting positions,

13 said restricted portion of string holder element holds said string anchoring portion  
14 wherein said string anchoring portion is located a critical distance from said second  
15 critical point such that said at least one string is rendered substantially inextensible  
16 between said second critical point and said string anchor in said first limiting position.

17 Claim 60 A stringed musical instrument comprising:

18 a body,

19 a neck having a nut,

20 a least one string connected to the neck, said neck forming at least one first  
21 critical point for each of said at least one string,

22 a fulcrum tremolo having a base plate, said fulcrum tremolo forming at least one  
23 second critical point for each of said at least one string, the base plate  
24 having a first end closer to said first critical point, and a second end  
25 further from said first critical point, the fulcrum tremolo being connected  
to the at least one string,

at least one rod, having a portion forming a pivot axis transverse the axis of the at  
least one string and connected to the fulcrum tremolo,

the fulcrum tremolo having at least one bearing housing and at least one ring  
bearing located within said at least one bearing housing, at least one rod

Application: 09/830,279

7 of 24

1 supporting said at least on ring bearing and therefore said at least one rod  
2 supporting at least bearing housing,  
3 an adjustment screw associated with each of said at least one bearing housing,  
4 each adjustment screw adjustably supporting each of said at least one  
5 bearing housing, therefore supporting the fulcrum tremolo on the body,  
6 each said adjustment screw having a vertical axis, and  
7 each said adjustment screw being substantially aligned to said pivot axis so that  
8 said pivot axis intersects said vertical axis of each said adjustment screw.

9 Claim 61 A stringed musical instrument of claim 60 wherein said at least one rod further  
10 comprises two portions extending outwardly from each other,  
11 wherein at least one bearing housing further comprises at least two bearing  
12 housings,  
13 wherein said at least one ring bearing further comprises at least two ring bearings  
14 in each of said at least two bearing housings,  
15 wherein each of said two portions support said at least two ring bearings of each  
16 of said at least two bearing housings,  
17 wherein each of said adjustment screws adjustably mounting each of said at least  
18 two bearing housings,  
19 wherein one of said at least two ring bearings in each of said at least two bearing  
20 housings is located adjacent to said at least one second critical point  
21 relative to each said adjustment screw and the other of said at least two  
22 ring bearings adjacent said adjustment screw relative to said second  
23 critical point.  
24  
25

Claim 62 A stringed musical instrument comprising:  
a body,  
a neck having a nut;  
a least one string connected to the neck, said neck forming at least one first  
critical point for each of said at least one string;

1 a fulcrum tremolo having a base plate, said fulcrum tremolo forming at least one  
2 second critical point for each of said at least one string, the base plate  
3 having a first end closer to said first critical point, and a second end further  
4 from said first critical point, the fulcrum tremolo being connected to the at  
5 least one string;  
6 at least one rod, having a portion forming a pivot axis transverse the axis of the at  
7 least one string and connected to the fulcrum tremolo;  
8 said fulcrum tremolo having at least one bearing housing and at least one ring  
9 bearing located within at least one bearing housing, at least one rod being  
10 supported by the at least one ring bearing; and  
11 an adjustment screw adjustably supporting the at least one bearing housing and  
12 therefore supporting the fulcrum tremolo on the body, the adjustment  
13 screw having a vertical axis, the adjustment screw being positioned  
14 further from the nut than the pivot axis so that the pivot axis is between  
15 the vertical axis of the adjustment screw and the first critical point.

13 Claim 63 A stringed musical instrument of claim 62 wherein said at least one rod further  
14 comprises at least two rods,

15 wherein at least one bearing housing further comprises at least two bearing  
16 housings,  
17 wherein said at least one ring bearing further comprises at least two ring bearings  
18 in each of said at least two bearing housings,  
19 wherein each of said two portions support said at least two ring bearings of each  
20 of said at least two bearing housings,  
21 wherein each of said adjustment screws adjustably mounting each of said at least  
22 two bearings,  
23 wherein one of said at least two ring bearings in each of said at least two bearing  
24 housings is located adjacent to said at least one second critical point  
25 relative to each said adjustment screw and the other of said at least two  
ring bearings adjacent said adjustment screw relative to said second  
critical point.



1  
2  
3 **AMENDMENTS**  
4

5 **In the Claims**

6 Claims 40-63 are currently pending.

7 No claims are canceled.

8 Claims 60-63 are added.

9 Claims 40-43, 45-59 are amended without prejudice.

10 Accordingly, claims 40-63 are pending.  
11

12 **Claim Listing under 37 C.F.R. 1.121(c):**

13 Claims 40-63, now pending, are submitted below in accordance with 37 C.F.R.

14 1.121(c).  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25